

REMARKS

This amendment is in response to the Office Action mailed November 15, 2007. Claims 1, 6, 8, 15, 16, 21, and 26 have been amended, claims 4, 5, 7, 14, 17-19 and 22-24 have been canceled without prejudice, and claims 27-34 have been added. Claims 1-3, 6, 8-13, 15, 16, 20, 21, and 25-34 are presently pending. No new matter has been added.

§101 Rejection

Claim 26 was rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Claim 26 has been amended to be directed to a computer readable medium. The Applicant respectfully requests withdrawal of the rejection of this claim.

§102 and §103 Rejections

Claims 1, 2, 13, 16, 21, and 26 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,361,439 to Kawamoto (“Kawamoto”). Claims 3-5, 14, 17, and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kawamoto in view of U.S. Patent No. 6,760,050 to Nakagawa (“Nakagawa”). Claims 6-8, 18, 19, 23, and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kawamoto and Nakagawa in view of U.S. Patent No. 5,633,993 to Redmann et al. (“Redmann”). Claims 9-12, 15, 20, and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kawamoto in view of Redmann. The Applicant traverses these rejections.

Claims 1, 15, 21, and 26 each recite the recording of spatial sound data in at least two channels of an audio file associated with a fast-moving object where the recorded spatial sound data includes spatial approaching sound data recorded in one channel of the audio file and spatial retreating sound data recorded in another channel of the audio file. None of the cited references teach or suggest recording spatial approaching sound data in one channel of an audio file and spatial retreating sound data in another channel of an audio file. For example, the present invention can be used to simulate a Doppler shift for fast-moving objects that approach a point of view, pass the point of view, and then retreat from the point of view. According to well-known aspects of physics, the sound will be higher in frequency as the fast-moving object approaches the position and lower in

frequency as the fast-moving object retreats from the position. The present invention simulates this effect by recording different spatial sound data in at least two channels of an audio file to represent these conditions.

Although Kawamoto accounts for distance when generating sound effects, Kawamoto is entirely silent regarding the use of different sound data for fast moving objects approaching and retreating from a point of view. Kawamoto only takes into account the distance to an object and not the direction of travel of the object.

Nakagawa is also directed to generating sound effects solely based on distance between the point of view and the other object. Nakagawa teaches increasing or decreasing the volume of the sounds based on changes in distance, but Nakagawa does not teach or suggest recording different sound data for fast objects approaching and retreating from a point of view.

Redmann does mention simulating a Doppler shift at Col. 16, lines 31-39. Redmann, however, computes the Doppler shift and apparently modifies the frequency of the sound according to the computation. Redmann does not record different spatial sound data (i.e., approaching spatial sound data and retreating spatial sound data) in two channels as recited in claims 1, 15, 21, and 26. The present invention can be advantageous over the method disclosed in Redmann because the present invention does not necessarily require computing the Doppler shift and altering the frequency of a sound effect in view of that Doppler shift. Instead, different spatial sound data are recorded in two channels to account for the fast-moving object approaching and retreating from the point of view.

Accordingly, none of the cited references, alone or in combination, teach or suggest every element of claims 1, 15, 21, and 26. For at least these reasons, claims 1, 15, 21, and 26, as well as claims 2, 3, 8-13, 16, 18-20, and 25 which depend therefrom, are patentable over the cited references. The Applicant respectfully requests withdrawal of the rejections of these claims.

Claim 6 recites recording of spatial sound data in at least two channels of an audio file associated with a directional object where the recorded spatial sound data includes spatial frontward

sound data recorded in one channel of the audio file and spatial rearward sound data recorded in another channel of the audio file. None of the cited references teach or suggest recording spatial forward sound data in one channel of an audio file and spatial rearward sound data in another channel of an audio file. For example, the present invention can be used to indicate to the listener whether the sound-making object is in front of, or behind, the point of view. The present invention simulates this effect by recording different spatial sound data in at least two channels of an audio file.

The Office Action acknowledges that Kawamoto and Nakagawa do not teach or suggest these claim elements. Office Action, pp. 7-8. The Office Action asserts that Redmann teaches this element at Column 9, lines 13-26. This portion of Redmann, however, simply describes the shifting of a sound from a generalized background to a localized position relative to the viewer. Redmann is entirely silent on providing forward and rearward spatial sound data in different channels. Redmann does not appear to record different spatial sound data in channels of an audio file for use depending on whether the associated object is in front of, or behind, the point of view.

Accordingly, none of the cited references, alone or in combination, teach or suggest every element of claims 6. For at least these reasons, claim 6, as well as claims 27-34 which depend therefrom, are patentable over the cited references. The Applicant respectfully requests withdrawal of the rejections of these claims.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner has any questions or concerns, the Applicant encourages the Examiner to contact the Applicant's representative, Bruce Black, by telephone to discuss the matter.

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Respectfully submitted,

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